

CLAIMS:

1. A cleaning member for cleaning an image carrier, comprising:
a support plate comprising:

a planar face portion configured to be fixed to an object in a position
adjacent to said image carrier,

a plurality of reinforcement features configured to reinforce a strength
of said support plate, at least one of said reinforcement features arranged on
said planar face portion, and

a blade connecting portion arranged on said planar face portion; and

an elastic blade member connected to said blade connecting portion of said support
plate such that said elastic blade extends toward said image carrier when said support plate is
fixed to said object.

2. The cleaning member of Claim 1, wherein said object is an interior surface of an
image forming apparatus.

3. The cleaning member of Claim 1, wherein said object is an interior surface of an
image processing cartridge.

4. The cleaning member of Claim 1, further comprising a plurality of fixing holes
extending through said support plate and configured to receive a screw that fixes the support
plate to said object.

5. The cleaning member of Claim 1, further comprising a plurality of registration
holes extending through said support plate and configured to align said support plate on said
object.

6. The cleaning member of Claim 1, wherein said plurality of reinforcement features
comprise:

a convex shaped protrusion extending from said planar face of said support plate; and
a fold portion forming a plane that extends substantially at a right angle to said planar
face portion.

7. The cleaning member of Claim 6, wherein said fold portion extends in a direction
of said convex shaped protrusion such that the folded portion, convex shaped protrusion and
said blade connecting portion all are formed on said planar face portion.

8. The cleaning member of Claim 6, wherein said fold portion extends in a direction
opposite of said convex shaped protrusion such that the folded portion is arranged on an
opposite face to said planar face portion that said protrusion and blade connecting portion are
formed on.

9. The cleaning member of Claim 6, wherein:

said fold portion is positioned on an edge of said planar face portion,
said elastic blade is connected to an opposite edge of the planar face portion,

and

said convex shaped protrusion is positioned between said edge and opposite edge.

10. The cleaning member of Claim 9, further comprising fixing holes positioned on opposite ends of said convex shaped protrusion.

11. The cleaning member of Claim 10, wherein said fixing holes are substantially aligned with said convex shaped protrusion to form an array extending along said edge and opposite edge.

12. The cleaning member of Claim 10, wherein said fixing holes are offset from said convex shaped protrusion in a direction extending from said edge to said opposite edge.

13. The cleaning member of Claim 10, wherein said convex shaped protrusion is substantially centered between said fixing holes.

14. The cleaning member of Claim 10, further comprising registration holes substantially aligned with said fixing holes to form an array extending along said edge and opposite edge.

15. The cleaning member of Claim 10 wherein said convex shaped protrusion comprises a continuous convex shaped protrusion that extends along said edge and opposite edge.

16. The cleaning member of Claim 10, wherein said convex shaped protrusion comprises a plurality of discrete convex shaped protrusions aligned on said planar face portion.

17. The cleaning member of Claim 16, further comprising at least one fixing hole positioned between said plurality of convex shaped protrusions.

18. The cleaning member of Claim 1, wherein at least one of said reinforcement features is positioned on said planar face to extend in an axial direction of said image carrier when said support plate is fixed to said object.

19. The cleaning member of Claim 6, further comprising a groove portion arranged along at least one side of said convex shaped protrusion to relieve a mechanical stress on said support plate when said convex shaped protrusion is formed in said support plate.

20. The cleaning member of Claim 6, further comprising a bend formed between said convex shaped protrusion and said edge having said elastic blade formed thereon.

21. The Cleaning member of Claim 20, further comprising a cut out portion positioned along said edge and configured to receive said elastic blade.

22. The cleaning member of claim 1, wherein the cross section second moment of the support plate containing the reinforcement member is 50mm^4 or more.

5 23. A cleaning member for cleaning an image carrier, comprising:
a support plate comprising:

means for fixing the support plate to an object in a position adjacent to said image carrier, and

10 means for reinforcing a strength of said support plate, , at least one of said reinforcement features arranged on said planar face portion;

an elastic blade member configured to clean said image carrier when said support plate is fixed to said object; and

means for connecting said elastic blade to said support plate.

15 24. The cleaning member of Claim 23, further comprising means for aligning said support plate on said object.

25. The cleaning member of Claim 23, further comprising means for relieving a mechanical stress on said support plate when said convex shaped protrusion is formed in said support plate.

26. An image forming apparatus comprising:

20 an image carrier;

an interior wall; and

a cleaning member mounted to said interior wall and configured to clean said image carrier, said cleaning member comprising:

a support plate comprising:

25 a planar face portion configured to be fixed to said interior wall in a position adjacent to said image carrier,

a plurality of reinforcement features configured to reinforce a strength of said support plate, at least one of said reinforcement features arranged on said planar face portion, and

30 a blade connecting portion arranged on said planar face portion; and

an elastic blade member connected to said blade connecting portion of said support plate such that said elastic blade extends toward said image carrier when said support plate is fixed to said interior wall.

27. An image processing cartridge, comprising:

an image carrier;

an interior wall; and

a cleaning member mounted to said interior wall and configured to clean said image carrier, said cleaning member comprising:

5 a support plate comprising:

a planar face portion configured to be fixed to said interior wall in a position adjacent to said image carrier,

10 a plurality of reinforcement features configured to reinforce a strength of said support plate, at least one of said reinforcement features arranged on said planar face portion, and

a blade connecting portion arranged on said planar face portion; and

an elastic blade member connected to said blade connecting portion of said support plate such that said elastic blade extends toward said image carrier when said support plate is fixed to said interior wall.

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